

**REMARKS**

Claims 1-70 are pending. Claims 1-70 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bevan et al. (U.S. Pat. No. 6,415,149) in view of Hottinen et al., "Transmit Diversity by Antenna Selection in CDMA Downlink" in view of Alamouti, "A Simple Transmit Diversity Technique for Wireless Communications."

Examiner disagrees with applicant's argument that Hottinen et al. do not teach a plurality of transmitters in their diversity scheme. By way of explanation, Examiner states "Hottinen teaches the concept of transmit diversity (i.e. more than one transmit antenna and not antenna diversity) e.g. see Section III on page 768." (page 2, paper no. 9). Applicant fails to understand how Examiner's explanation relates to the previous disagreement. Furthermore, applicant fails to find any reference to a plurality of transmitters in Section III of the Hottinen et al. diversity scheme.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Applicant respectfully submits that there is no suggestion to combine the teaching of Bevan et al. with Hottinen et al. or Alamouti to achieve the present invention. In fact, Bevan et al. specifically teaches away from the present invention. Referring to Figure 5, Bevan et al. illustrate a mobile station 70 positioned in the coverage area of two BTSs 72, 74. (col. 8, lines 4-7). Bevan et al. teach that beams 76 and 78 from BTS 72 are likely to have correlated fading and not produce diversity benefit. (col. 8, lines 15-20). Bevan et al. teach that it is advantageous to combine beams 76 and 80 or beams 78 and 80 from different BTSs, therefore, to benefit from diversity. This is completely different from the claimed invention. By way of contrast, claims 1-8

TI-28997, Page 12

require "receiving a plurality of signals from a plurality of remote transmitters; *determining* which of the plurality of remote transmitters use transmit diversity; *calculating* a signal strength of each respective signal of the plurality of signals; and *selecting* one of the remote transmitters in response to the steps of determining and calculating." (emphasis added). Thus, the present invention teaches an advantage to selecting multiple beams from a single transmitter employing transmit diversity. Bevan et al., however, teach advantageously selecting beams from different transmitters rather than from a single transmitter. One of ordinary skill in the art, therefore, would not think to combine the teaching of Bevan et al. with other cited references to achieve the present invention. Thus, claims 1-8 are patentable under 35 U.S.C. § 103(a).

As previously stated, there must be a reasonable expectation that a combination of Bevan et al. with Hottinen et al. and Alamouti will be successful. Applicant agrees with Examiner that Bevan et al. do not teach transmit diversity as required by claims 1-8. Bevan et al. teach selecting signals from different transmitters to minimize fading from a single transmitter. Hottinen et al. teach transmitting from one antenna and not from another antenna at a single transmitter based on signal strength. Alamouti teaches a form of transmit diversity but fails to teach or suggest selection. Applicant respectfully requests that Examiner consider what a combination of these references would teach one of ordinary skill in the art without improper hindsight afforded by the instant specification. The advantage of Bevan et al. is found in selecting signals from two different transmitters 72, 74 (Figure 5) rather than two signals from a single transmitter. If the teaching of Hottinen et al. is superimposed on Bevan et al., the result will be selection of either transmitter 72 or transmitter 74 based on signal strength. The combined result, therefore, will be selection of a single base station with the greatest signal strength. This combination will not successfully produce transmit diversity, and, therefore, fails to offer a reasonable expectation of success.

The teaching of Alamouti is incompatible with either Bevan et al. or Hottinen et al. Alamouti requires signals from two different antennas to make a complete signal. (Table I, page 1454). The two received signals  $r_0$ ,  $r_1$  of equation (11) are required to make a single symbol  $s_0$  or  $s_1$

of equation (12) (page1454). A combination of Alamouti with Bevan et al. suggests using the signal from only one antenna of Alamouti. This produces an incomplete signal and simply will not work. Likewise, a combination of Alamouti with Hottinen et al. suggests using only the strongest signal from one of Alamouti's two antennas. This also produces an incomplete signal. Thus, no combination of these three references produces a functional communication system with advantages equal to any single reference taken alone. One of ordinary skill in the art, therefore, would not consider such combinations apart from improper hindsight in view of the instant specification. Thus, claims 1-8 are patentable under 35 U.S.C. § 103(a).

Finally, the proposed combination of Bevan et al., Hottinen et al., and Alamouti must teach or suggest all the claim limitations. Examiner admits Bevan et al. are "silent or deficient" on transmit diversity. This admission, however, fails to fully consider the limitations of claims 1-8. Claims 1-8 recite "receiving a plurality of signals from a plurality of remote transmitters; *determining which of the plurality of remote transmitters use transmit diversity*; calculating a signal strength of each respective signal of the plurality of signals; and *selecting one of the remote transmitters in response to the steps of determining and calculating.*" (emphasis added). Alamouti is the only reference that teaches transmit diversity and only discloses a single transmitter. Bevan et al. are silent on transmit diversity and, therefore, do not suggest determining which transmitter might use transmit diversity. Hottinen et al. teach selective transmit diversity (STD). STD generally means transmitting alternately in time from two antennas of a single transmitter. Hottinen et al. modify STD by transmitting from only the best antenna. "In particular, the encoded bits are transmitted only from the 'best' antenna, as signaled from each terminal." (page 767, right column, last paragraph). No combination of the above references teaches or suggests "determining which of the plurality of transmitters use transmit diversity" as required by claims 1-8. Moreover, since no combination of the above reference teaches or suggests the step of determining, no combination of the above references teaches or suggests the step of "selecting one of the remote transmitters in response to the steps of determining and calculating." For all the foregoing reasons, therefore, claims 1-8 are patentable under 35 U.S.C. § 103(a).

Claims 9-14 recite "A method of operating a communication circuit, comprising the steps of: transmitting a plurality of signals from a respective plurality of transmitters; *receiving* an identity of a selected transmitter of the plurality of transmitters in response to transmit diversity and signal strength of each respective transmitter; and *transmitting from the selected transmitter and not transmitting at least one signal from at least another transmitter* in response to the step of receiving." (emphasis added). No combination of the cited references teach or suggest "receiving an identity of a selected transmitter" for two reasons. First, no reference teaches selecting a transmitter. Second, since no transmitter is selected, there is no motivation to receive an identity of a selected transmitter. Applicant respectfully reiterates the previous argument of December 12, 2003, with respect to Hottinen et al. Hottinen et al. disclose selection of the best antenna of a single transmitter. This best antenna is not selected in response to transmit diversity but in response to signal strength.

Furthermore, no reference teaches or suggests "transmitting from the selected transmitter and not transmitting at least one signal from at least another transmitter in response to the step of receiving." No transmitter is selected and no transmitter is unselected in response to the step of receiving. For all the foregoing reasons, therefore, claims 9-14 are patentable under 35 U.S.C. § 103(a) over the cited references.

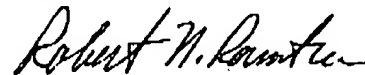
Claims 15-22, 29-36, and 57-64 all recite the steps of "determining which of the plurality of remote transmitters use transmit diversity" and "selecting one of the remote transmitters in response to the steps of determining and calculating" as in claims 1-8. Claims 43-50 recite the steps of "determining which of the plurality of remote base stations use transmit diversity" and "selecting one of the remote base stations in response to the steps of determining and calculating." As previously explained, none of the cited references teach or suggest these limitations. Thus, claims 15-22, 29-36, 43-50, and 57-64 are patentable under 35 U.S.C. § 103(a) over the cited references.

Claims 23-28, 37-42, and 65-70 all recite the steps of "receiving an identity of a selected transmitter of the plurality of transmitters in response to transmit diversity and signal strength of each respective transmitter" and "transmitting from the selected transmitter and not transmitting at

least one signal from at least another transmitter in response to the step of receiving" as in claims 9-14. Claims 51-56 recite the steps of "receiving an identity of a selected transmitter of the plurality of transmitters in response to transmit diversity and signal strength of each respective transmitter" and "transmitting from the selected transmitter and not transmitting at least one signal from at least another transmitter in response to the step of receiving." As previously explained, none of the cited references teach or suggest these limitations. Thus, claims 23-28, 37-42, 51-56, and 65-70 are patentable under 35 U.S.C. § 103(a) over the cited references.

In view of the foregoing, applicant respectfully requests reconsideration and allowance of claims 1-70. If the Examiner finds any issue that is unresolved, please call applicant's attorney by dialing the telephone number printed below.

Respectfully submitted,



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